

Serial No. 10/017,077
Group Art Unit 1724

solids sized in the range of about 0.01-1.0 μm in an amount higher than about 50 mg/l; and

(b) an ion exchange unit for receiving a carbon bed product stream from said carbon bed and for removing said metal ions from solution.

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13. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 12, wherein said wastewater feed contains solids in an amount higher than about 100 mg/l.

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14. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 12, wherein said wastewater feed contains hydrogen peroxide and said carbon bed product stream has concentration levels of hydrogen peroxide less than about 0.1 mg/l.

15. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 14, wherein wastewater feed comprises a byproduct polishing slurry and said metal ions comprise copper ions in said byproduct polishing slurry.

16. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 15, wherein said wastewater feed

comprises a byproduct polishing slurry from the chemical mechanical polishing of integrated circuits and said metal ions comprise copper ions at a level in the range of about 1-100 mg/l.

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17. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 15, wherein said ion exchange unit comprises organic chemical means for contacting said carbon bed product stream metal ions with a resin having a macroporous iminodiacetic functional group to attach said copper ions.

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18. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 15, wherein said ion exchange unit comprises organic chemical means for contacting said carbon bed product stream metal ions with cross-linked polystyrene resin to attach said copper ions.

19. (Amended) Apparatus for removing metal ions from wastewater as set forth in Claim 18, wherein said ion exchange unit comprises inorganic chemical means for contacting said carbon bed product stream metal ions with cross-linked polystyrene resin having a bead size in the range of about 0.4 to 1.23 mm with a tight uniformity coefficient of about 1.7 to attach said copper ions.